

**FINAL**  
**ENVIRONMENTAL ASSESSMENT (EA)**

**Transfer of Former Charleston Air Force  
Base Housing Annex Property to the  
City of North Charleston for  
Construction and Operation of New  
Municipal Facilities**



**Department of the Air Force  
Air Mobility Command  
Charleston Air Force Base, South Carolina  
October 2009**

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## **FINDING OF NO SIGNIFICANT IMPACT**

### **TRANSFER OF FORMER CHARLESTON AIR FORCE BASE HOUSING ANNEX PROPERTY TO THE CITY OF NORTH CHARLESTON FOR CONSTRUCTION AND OPERATION OF MUNICIPAL FACILITIES**

#### **AGENCY**

Department of the Air Force, Air Mobility Command, Charleston Air Force Base (CAFB), South Carolina.

#### **BACKGROUND**

The former CAFB Housing Annex was declared excess property by the Department of the Air Force in 1996. The City of North Charleston made request for transfer of approximately 16 acres of the property for future construction and operation of various new municipal facilities. The National Defense Authorization Act for Fiscal Year 2002 authorized the Secretary of the Air Force to transfer subject property to the city. Many of the city's aging and scattered municipal facilities cannot effectively and efficiently accommodate the city's growing needs, and the requested property is considered by the city to be of central importance and of ideal location for construction and operation of new co-located municipal facilities.

Low-level trichloroethene (TCE) contamination is present in groundwater approximately 30 feet below ground surface at two locations on the parcel at levels just above regulatory limits (5 parts per billion). Land use controls (LUCs) are in place and prohibit the installation of drinking water wells on the parcel; therefore the low-level TCE poses no risk to human health or the environment. A Finding of Suitability for Early Transfer (FOSET) required for the proposed property transfer is underway, given the TCE levels.

#### **PROPOSED ACTION**

Under the Proposed Action, the Air Force would transfer approximately 16 acres of the former CAFB Housing Annex to the City of North Charleston, and the City of North Charleston would demolish the twenty-two abandoned housing units on the property and construct and operate new city municipal facilities on site. The construction would include new utilities such as water, sewage, storm drainage, electricity, and natural gas.

Conceptual site models in the City of North Charleston's reuse plan include a new fire station and up to four additional buildings totaling 73,600 square feet for public works administration and other municipal facilities. New roads, sidewalks, parking spaces (approximately 120), and a detention pond are other components. Current personnel estimates are for six employees in the fire station and approximately 83 employees in the public works administration and other facilities.

#### **NO ACTION ALTERNATIVE**

The Air Force EIAP (32 CFR 989.8(d)) states, "...except in those rare instances where excused by law, the Air Force must always consider and assess the environmental impacts of the 'no action' alternative." Under the No Action Alternative, the Air Force would not transfer the property and would continue to provide required property maintenance. New city municipal facilities would not be constructed and operated on the property, to the detriment of the City of North Charleston. There would be no environmental impacts to the property.

## DECISION

Based on my review of the facts and analyses contained in the Environmental Assessment, I conclude that implementation of the Proposed Action will not have a significant impact either by itself or with consideration of cumulative impacts. Accordingly, the requirements of the National Environmental Policy Act (NEPA), the regulations promulgated by the Council on Environmental Quality, and the requirements of the CFR have been met and an environmental impact statement is not required.



JOHN M. WOOD, Colonel, USAF  
Commander, 437th Airlift Wing

21 DEC 09

Date

**COVER SHEET  
ENVIRONMENTAL ASSESSMENT (EA)**

**TRANSFER OF FORMER CHARLESTON AIR FORCE BASE HOUSING ANNEX  
PROPERTY TO THE CITY OF NORTH CHARLESTON FOR CONSTRUCTION AND  
OPERATION OF MUNICIPAL FACILITIES**

**Responsible Agency:** Department of the Air Force, Air Mobility Command, Charleston Air Force Base (CAFB), South Carolina.

**Proposed Action:** Transfer approximately 16 acres of the former CAFB Housing Annex to the City of North Charleston for construction and operation of new municipal facilities.

**Written comments and inquiries regarding this document should be directed to:** Joe Camp, 437 CES/CEAO, 100 West Stewart Ave., Charleston AFB, SC, 29404-4827; tel. (843) 963-4125, email: joe.camp@charleston.af.mil.

**Report Designation:** Draft Environmental Assessment

**Abstract:** The Air Force is considering transfer of an approximate 16 acre parcel of land at the former CAFB Housing Annex to the City of North Charleston for construction and operation of new city municipal facilities. The current facilities are inadequate to meet the city's growing needs. Resources considered in the EA are safety and occupational health, air quality, noise, solid waste management, water resources, biological resources, cultural resources, land use, traffic and transportation, geology and soils, socioeconomic resources, coastal zone consistency, hazardous materials and wastes, and environmental justice. The Air Force Environmental Impact Analysis Process (EIAP) requires consideration of a No Action Alternative in an EA. No significant environmental impacts would result from implementation of the Proposed Action or from the No Action Alternative.

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## **ACRONYMS AND ABBREVIATIONS**

ACM	Asbestos-Containing Material
AF	Air Force
AW	Air Wing
BG	Block Group
BMP	Best Management Practice
CAA	Clean Air Act
CAFB	Charleston Air Force Base
CARTA	Charleston Area Regional Transportation Authority
CEQ	Council on Environmental Quality
CFR	Code of Federal Regulations
CT	Census Tract
dBL	A-Weighted Decibels
EA	Environmental Assessment
EO	Executive Order
EIAP	Environmental Impact Analysis Process
LBP	Lead-Based Paint
LUC	Land Use Control
NAAQS	National Ambient Air Quality Standards
NEPA	National Environmental Policy Act
NPS	National Park Service
NRCS	National Resource Conservation Service
OCRM	Office of Ocean and Coastal Resource Management
RCRA	Resource Conservation and Recovery Act
TCE	Trichloroethene
SCDHEC	South Carolina Department of Health and Environmental Control
SPCA	Society for the Prevention of Cruelty to Animals
USEPA	U.S. Environmental Protection Agency
USGS	U.S. Geologic Survey



## **1.0 PURPOSE OF AND NEED FOR THE PROPOSED ACTION**

### **1.1 INTRODUCTION**

Charleston Air Force Base (CAFB) is located in Charleston County in southeast South Carolina, approximately 10 miles northwest of downtown Charleston (Appendix A, Figure 1). CAFB lies within the corporate boundaries of the City of North Charleston on property formerly owned and operated by the Charleston Municipal Airport. CAFB has a joint-use agreement with the Charleston County Aviation Authority for shared use of the runways and navigational aids by civilian, commercial, and military aircraft.

CAFB encompasses approximately 3,733 contiguous acres between the Ashley and Cooper Rivers, and is home to the 437<sup>th</sup> Airlift Wing (AW). The 437<sup>th</sup> AW operates the C-17 Globemaster III strategic airlift aircraft and has four operational groups consisting of 21 squadrons and one wing staff directorate. The mission of the 437<sup>th</sup> AW is to provide airlift of troops/passengers, military equipment, cargo, and aero medical equipment/supplies. The 437<sup>th</sup> AW is augmented by the 315<sup>th</sup> AW, which is a co-located Air Force Reserve Command wing that shares the same C-17 aircraft, facilities and equipment. CAFB has numerous tenant organizations, including the 1<sup>st</sup> Combat Camera Squadron and the 560<sup>th</sup> Red Horse Squadron.

North Charleston is the state's third largest city. It encompasses more than 76.6 square miles and has a current population of more than 95,000. Incorporated in June 1972, North Charleston has grown primarily through annexation of developed land. The City has a rich history that includes hosting a number of important military installations. Today, North Charleston has a vibrant economy and it can boast to be the State's leader in retail sales for the 16th consecutive year. North Charleston is an important freight trans-shipment point, having two major railheads, two port facilities, and a general aviation airport.

### **1.2 PROPOSED ACTION**

The Proposed Action is for the Air Force to transfer approximately 16 acres of the former CAFB Housing Annex (Appendix A, Figures 2 and 3) to the City of North Charleston for demolition of twenty-two abandoned housing units on the property and construction and operation of new city municipal facilities there. The city would also install new utilities including water, sewage, storm drainage, electricity, and natural gas to accommodate the facilities.

### **1.3 PURPOSE AND NEED FOR PROPOSED ACTION**

The purpose of the Proposed Action is to transfer approximately 16 acres of surplus Air Force property to the City of North Charleston for construction and operation of various municipal facilities. New facilities would replace current aging and inefficient municipal facilities to accommodate the city's growing needs. For optimum operational efficiency and cost effectiveness, a central site with respect to city municipal boundaries for co-located facilities is needed, and the parcel proposed for transfer meets this need.

### **1.4 APPLICABLE REGULATORY REQUIREMENTS, PERMITS, AND COORDINATION**

The following regulations, permits, or coordination may be applicable to the Proposed Action as described in this Environmental Assessment (EA):

- The National Environmental Policy Act (NEPA) of 1969 and implementing regulations in Title 40 Code of Federal Regulations (CFR), Parts 1500-1508 (40 CFR 1500-1508)
- The National Historic Preservation Act of 1966 (16 USC 470 et seq., as amended) and enabling legislation Title 36 (CFR), Part 800 (36 CFR 800)

- 32 CFR Part 989
- Air Force Instruction (AFI) 91-302, *Air Force Occupational and Environmental Safety, Fire Protection, and Health Standards*
- AFI 32-1052, *Facility Asbestos Management*
- AFI 32-7042, *Solid and Hazardous Waste*
- AFI 32-7064, *Integrated Natural Resources Management*
- The Coastal Zone Management Act of 1972
- The Endangered Species Act of 1973 (16 USC 1531-1543)
- The Fish and Wildlife Coordination Act (16 USC 661, et seq.)
- Executive Order (EO) 13186, *Responsibilities of Federal Agencies to Protect Migratory Birds*
- The Migratory Bird Treaty Act (MBTA) (16 USC 703, et seq.)
- The Clean Water Act (CWA) of 1977 and the Water Quality Act (WQA) of 1987 (33 USC 1251 et seq., as amended)
- EO 11990, *Protection of Wetlands*
- The Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) of 1980 (as amended by the Superfund Amendments and Reauthorization Act [SARA] of 1986)
- The Resource Conservation and Recovery Act (RCRA) of 1976
- The Archeological Resources Protection Act of 1979
- EO 11988, *Floodplain Management*
- The Clean Air Act (CAA) (42 USC 7401 et seq., as amended)
- The Noise Control Act of 1972
- EO 12898, *Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations*
- EO 13045, *Protection of Children from Environmental Health Risks and Safety Risk*
- EO 13423, *Strengthening Federal Environment, Energy, and Transportation Management*
- The Energy Independence and Security Act of 2007
- South Carolina Department of Health and Environmental Control (SCDHEC) National Pollutant Discharge Elimination System (NPDES) General Permit for Stormwater Discharges from Construction Activities (obtained at CAFB on an as needed basis)
- SCDHEC NPDES General Permit for Stormwater Discharges Associated with Industrial Activity (Permit Number SCR000000)

## **1.5 AUTHORITY AND SCOPE OF THE ENVIRONMENTAL ASSESSMENT**

This document was prepared in accordance with the requirements of the NEPA of 1969, the Council on Environmental Quality (CEQ) regulations of 1978, and 32 CFR Part 989. This EA assesses

the potential environmental impacts associated with the Proposed Action as well as those associated with the No-Action Alternative.

## **1.6 INTERAGENCY COORDINATION AND PUBLIC INVOLVEMENT**

The Air Force (AF) invites public participation in the evaluation of the Proposed Action through the NEPA process. Consideration of the views and information of all interested persons promotes open communication and enables better decision-making. The Intergovernmental Coordination Act and EO 12372, *Intergovernmental Review of Federal Programs*, require Federal agencies to cooperate with and consider state and local views in implementing a federal proposal. AFI 32-7060, *Interagency and Intergovernmental Coordination for Environmental Planning* (IICEP), requires the AF to implement the IICEP process, which is used for the purpose of facilitating agency coordination and implements scoping requirements under NEPA.

All agencies, organizations, and members of the public having a potential interest in the Proposed Action will be given an opportunity to provide comments on the Proposed Action during a 30-day review period. At the end of the 30-day review period, the AF will consider all comments submitted. If appropriate, the AF may then execute a Finding of No Significant Impact and proceed with the Proposed Action. If it is determined that implementation of the Proposed Action would result in significant impacts, the AF will either publish in the Federal Register a Notice of Intent to prepare an Environmental Impact Statement, revise the Proposed Action to avoid significant impacts, incorporate mitigation to reduce impact to less than significant, or not take the action.

## **2.0 DESCRIPTION OF PROPOSED ACTION AND ALTERNATIVES**

Under NEPA, this EA is required to address the potential environmental impacts of the Proposed Action, No-Action Alternative, and practicable action alternatives. Practicable action alternatives must be reasonably foreseeable and adequately defined for decision-making (any necessary preceding events having taken place), affordable, capable of implementation, and capable of meeting the defined need for the action.

This section describes the Proposed Action and No-Action Alternative and also discusses an alternative considered but not carried forward for detailed analysis in this EA.

### **2.1 PROPOSED ACTION**

The Proposed Action involves the Air Force transfer of approximately 16 acres of the former CAFB Housing Annex (Appendix A, Figure 3) to the City of North Charleston, demolition of the twenty-two abandoned and deteriorated housing units on the property, and construction and operation of new city municipal facilities there. The city would also install new utilities, including water, sewage, storm drainage, electricity, and natural gas to accommodate the facilities.

Conceptual site models for the property included in the City of North Charleston's draft reuse plan (City of North Charleston Department of Public Works, 2009) include a new fire station and up to four additional buildings, totaling 73,600 square feet for other municipal facilities, including public works administration (Appendix A, Figures 4 and 5). Current estimates are for six employees in the fire station and approximately 83 in the public works and other municipal facilities. New roads, sidewalks, parking spaces (approximately 120), and a detention pond are other components included. (Note that the figures also show a recently constructed adjacent SPCA facility and proposed municipal facilities on the adjacent former Naval Station Annex.).

The new fire station would be 5500-7500 square feet depending on the number of bays. The proposed location would provide the station the capability to rapidly respond to any area of the city including accident scenes on Interstate 26, which are frequent and often require the quickest response time possible.

The city's reuse plan also notes that the new public works administration facility must meet the requirements (structural and otherwise) of an essential/critical facility. An essential/critical facility is one which is critical to the health and welfare of the population and which, if destroyed, or functionally impaired, will have the potential to disrupt its role before, during and after a disaster. In the case of the public works administration building, the purpose and function of the facility is critical in the city government's response and recovery in the event of a disaster.

The city has emphatically expressed that the central location of the property within municipal boundaries and the opportunity to co-locate municipal facilities are highly desirable aspects this proposal.

### **2.2 NO-ACTION ALTERNATIVE**

NEPA requires consideration of a No-Action Alternative to the Proposed Action. Under the No-Action Alternative, the Air Force would not transfer the property and would continue to provide required property maintenance. New co-located city municipal facilities would not be constructed and operated on the property. There would be no environmental impacts to the property. The No-Action Alternative would not meet the defined need for the action.

## **2.3 ALTERNATIVES CONSIDERED BUT NOT CARRIED FORWARD**

The only alternative that was considered but not carried forward for detailed analysis in this EA is construction and operation of new city municipal facilities elsewhere within the City of North Charleston. Three alternate sites were evaluated in 1994, 1997 and 2006 by the city, but were ultimately dismissed, as they did not meet the required purpose and need. No alternate sites are currently under consideration. As such, this alternative is not carried forward for detailed analysis in this EA.

## **3.0 DESCRIPTION OF THE AFFECTED ENVIRONMENT**

### **3.1 AIR QUALITY**

The Federal Clean Air Act (CAA) requires the United States Environmental Protection Agency (USEPA) to set National Ambient Air Quality Standards (NAAQS) for pollutants considered harmful to public health and the environment. USEPA has established NAAQS for the following six principal pollutants, which are called criteria pollutants: carbon monoxide, lead, nitrogen dioxide, ozone, particulate matter, and sulfur dioxide. Areas that meet the air quality standard for the criteria pollutants are designated as being “in attainment”. Areas that do not meet the air quality standard for one of the criteria pollutants may be subject to the formal rule-making process and designated as being “in nonattainment” for that standard.

CAFB is located within USEPA Air Quality Control Region IV, which generally has good air quality (CAFB, 2008). The base is within the Charleston Intrastate Air Quality Control Region, which is classified as being “in attainment” with all criteria pollutants. Because CAFB is within an attainment area for all criteria pollutants, major new or modified stationary sources on and near the base are subject to Prevention of Significant Deterioration (PSD) review to ensure that these sources are constructed without causing significant deterioration of regional air quality. A major new source is defined as one that has the potential to emit any pollutant regulated under the CAA in amounts equal to or exceeding specific major source thresholds: 100 or 250 tons/year based on the source’s industrial category.

CAFB has a Title V Air Permit issued by SCDHEC (Permit Number 560-0019) for operation of the base solid waste incinerator (CAFB, 2008). In compliance with this permit, CAFB routinely calculates annual criteria pollutant emissions from stationary emission sources and provides this information to the State. Based on their emissions to date, bulk fuel storage areas, operations generating volatile organic compounds, paint spray booths, and bead blast units at the base have been exempt from SCDHEC permitting requirements. Emergency generators used throughout the base are also exempt from permitting requirements because they are operated 250 hours or less per year in addition to emergency operations. There are no requirements to routinely calculate air emissions from aircraft operations or from mobile sources such as vehicles under the State’s stationary source permitting program. There are no emission sources in the former CAFB Housing Annex area that are regulated under the CAFB Title V Air Permit.

### **3.2 NOISE**

In the context of this document, noise is defined as any undesirable or unwanted sound or audible disturbance that interferes with normal activity. Noise is considered undesirable if it interferes with speech and hearing during normal conversation and is intense and of sufficient duration to damage hearing.

Based on studies conducted in 1974, the USEPA recommended limiting daily equivalent sound level to 70 A-weighted decibels (dBA), which would translate into an average day–night noise level (DNL) of 75 dBA. The hearing loss projections are based on an average daily outdoor exposure of 16 hours (7:00 a.m. to 10:00 p.m.) over a 40-year period. Therefore, an outdoor DNL of 75 dBA is considered the threshold, above which the risk of hearing loss may begin to occur in people. Typical noise levels for quiet urban areas, such as this former housing area, range from 40 dBA to 50 dBA (nighttime and daytime) as compared to normal speech at three feet (65 dBA) or a gas-powered lawn mower (95 dBA). With exception of any wildlife present, there are no noise sources on the former CAFB Housing Annex. Figure 3-1 provides typical noise levels.

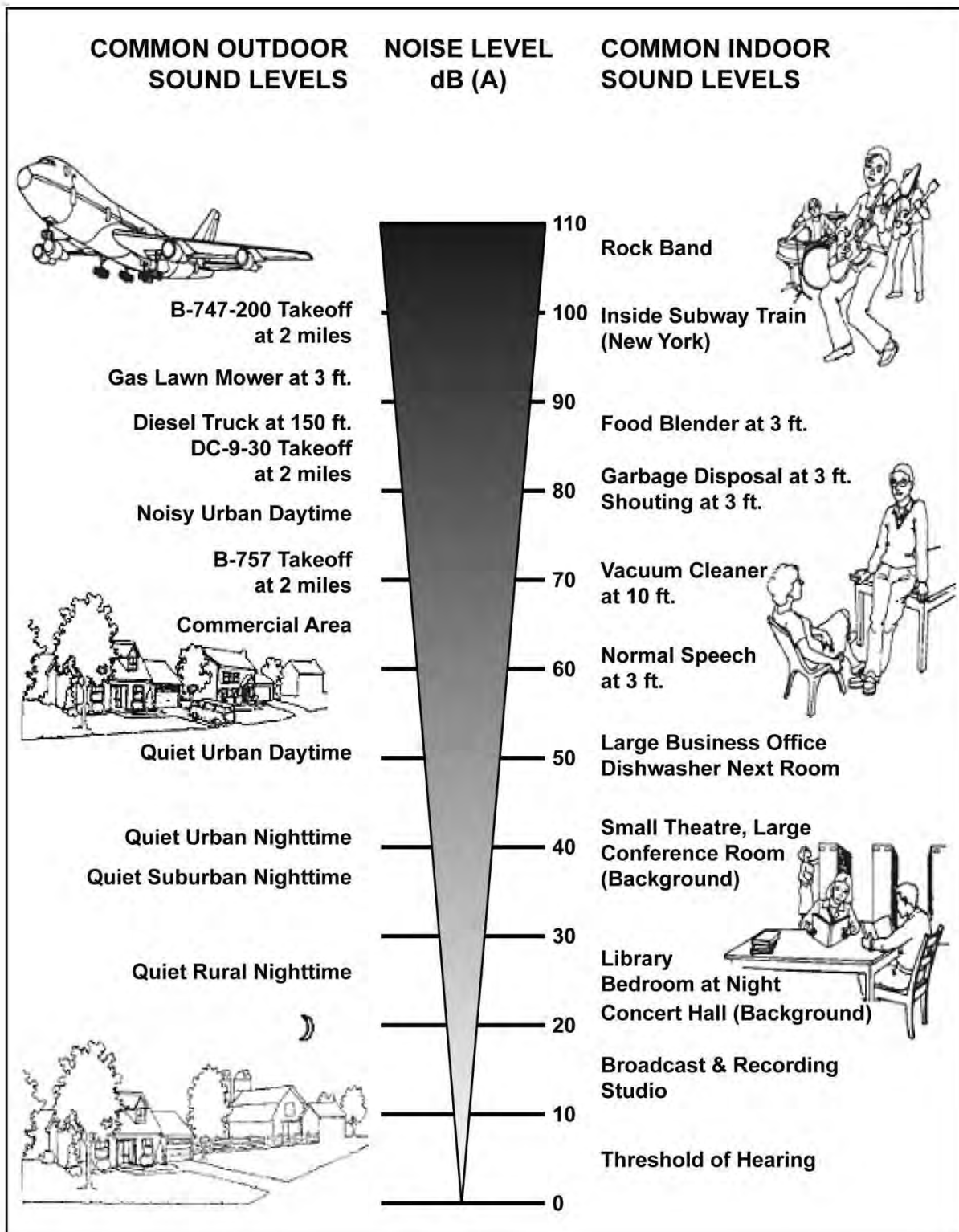


Figure 3-1. Typical Noise Levels

### **3.3 SOLID WASTE**

No solid waste is currently generated at the former CAFB Housing Annex.

### **3.4 HAZARDOUS MATERIALS AND WASTES**

Charleston AFB has a Part B Permit under the Resource Conservation and Recovery Act (RCRA). The RCRA Part B Permit currently identifies 111 sites (95 Solid Waste Management Units and 16 Areas of Concern) at Charleston AFB as potentially impacted by past hazardous material or hazardous waste activities that required/require investigation and potential remediation. The former CAFB Housing Annex has been investigated and has been found to contain low levels of trichloroethene (TCE) contamination in the groundwater at two locations approximately 30 feet below ground surface. The area is being addressed by the base's Environmental Restoration Program (ERP). SC Department of Health and Environmental Control (DHEC) approved land use controls (LUCs) are in place to ensure that there is no threat to human health or the environment.

No hazardous materials or wastes are currently generated at the former CAFB Housing Annex.

### **3.5 ASBESTOS-CONTAINING MATERIALS AND LEAD-BASED PAINT**

An asbestos inspection survey was conducted in May 1988 by Harmon Engineering Associates Inc. at the former Charleston AFB Housing Annex. A single unit was inspected which was representative of the other 21 units. No Asbestos Containing Materials (ACM) were found. A lead based paint (LBP) survey was conducted in 1994 by EA Engineering, Science and Technology on the interior and exterior paint of all 22 units. Lead levels in excess of action levels were found in only one unit's exterior paint (CAFB, 1998).

### **3.6 WATER RESOURCES**

The state of South Carolina is divided into eight major drainage basins. There are two major river basins in the area, the Ashley and Cooper River basins, bounded by the Ashley River to the south-southwest and the Cooper River to the north-northeast (CAFB, 2003). The Cooper River basin encompasses eight watersheds (843 square miles), and the Ashley River Basin encompasses seven watersheds (894 square miles). Both river basins incorporate the Lower Coastal Plain and Coastal Zone regions of South Carolina. Charleston AFB is located in the Cooper River Watershed (U.S. Geological Survey [USGS] Cataloging Unit 03050201).

Forested wetlands and freshwater swamps are generally located on the fringes of the Charleston AFB (CAFB, 2008). Surface water features within the Charleston AFB include Turkey Creek and tributaries to the Ashley and Cooper River basins. The drainage patterns at Charleston AFB include Filbin Creek (a tributary of the Cooper River located at the south end of Runway 15/33), the Ashley River, and small tributaries of the Ashley River. Flooding occasionally occurs, largely due to the flat terrain, high water table (0.25 to 13 feet below the ground surface), and poor drainage infrastructure (CAFB, 2003).

There are no jurisdictional wetlands, open water bodies or streams that would be regulated by the U.S. Army Corps of Engineers within the former CAFB Housing Annex or immediately adjacent properties.

### **3.7 BIOLOGICAL RESOURCES**

Vegetation on the proposed project location consists of planted grass surrounded by a buffer of typical native trees and shrubbery.



Wildlife in the area is primarily restricted to those species adapted to a suburban and urban environment. Adjacent wooded wetland and upland forested areas at CAFB support a great deal of common generalist species of wildlife, including bobwhite quail, mourning dove, cottontail rabbits, gray squirrels, and white-tailed deer. The areas in and around the proposed project location have bird activity, and several species that prefer open habitat like the mourning doves (*Zenaida macroura*), northern mockingbirds (*Mimus polyglottis*), American robins (*Turdus migratorius*), and various species of sparrows (North Wind, 2005). There are no animal or plant species that are federally listed as Threatened, Endangered, or Species of Special Concern identified at the former CAFB Housing Annex. Likewise, there are no federal or state protected, threatened or endangered species (animal or plant) adjacent to the former CAFB Housing Annex (CAFB, 2008).

### 3.8 SOCIOECONOMIC RESOURCES

Table 3-1 presents the estimated populations of South Carolina and Charleston County in 2000 and 2007 (U.S. Census Bureau, 2007), and the estimated population of the City of North Charleston in 2000 and 2006 (U.S. Census Bureau, 2006). The populations of South Carolina and Charleston County increased by 9.9 percent and 10.6 percent, respectively, between 2000 and 2007. The population of the City of North Charleston increased by 7.7 percent between 2000 and 2006.

**TABLE 3-1**

U.S. Census 2000, 2006, and 2007 Population Estimates

*Environmental Assessment for Military Family Housing Privatization, Charleston AFB*

Location	2000 Population	2006 <sup>a</sup> or 2007 <sup>b</sup> Population	Percent Change
State of South Carolina	4,012,012	4,407,709 <sup>b</sup>	9.9
Charleston County	309,969	342,973 <sup>b</sup>	10.6
City of North Charleston	79,641	87,482 <sup>a</sup>	7.7

Source: U.S. Census Bureau, 2006 and U.S. Census Bureau, 2007.

In 2006, Charleston County had a civilian labor force of 174,162 persons, of whom 164,456 (94.4 percent) were employed (U.S. Census Bureau, 2006). In 2006, the City of North Charleston had a civilian labor force of 40,254, of whom 37,071 (92.1 percent) were employed. In 2006, the mean household income was \$46,653 in Charleston County and \$34,296 in the City of North Charleston.

### 3.9 CULTURAL RESOURCES

A 1984 site visit by the National Park Service (NPS) concluded that there are no architecturally or historically significant structures present at the proposed project site (Lee, 1984). CAFB also follows the principles of DoD Instruction 4710.02, *DoD Interactions with Federally-Recognized Tribes* (September 14, 2006).

### 3.10 LAND USE

Land at the former CAFB Housing Annex is currently unused. In addition to CAFB and Charleston International Airport, land uses in the vicinity include various aeronautical, small businesses,

municipal, commercial and industrial. Approximately 85 percent of the land in the area is “improved landscape” (roads, buildings, etc).

### **3.11 TRAFFIC AND TRANSPORTATION**

Currently, traffic on the former CAFB Housing Annex is virtually non-existent. Adjacent roads and highways (Rivers Avenue, South Aviation Boulevard, Remount Road, I-26 and 526) are moderately to heavily traveled during peak weekday hours. Road improvements currently underway to Remount Road and I-26 will increase vehicular capacity and greatly improve traffic movement in the area. Public transportation in the area is provided by the Charleston Area Regional Transport Authority (CARTA).

### **3.12 SAFETY AND OCCUPATIONAL HEALTH**

As there is no activity presently occurring on the parcel, there are no safety or occupational health concerns (with exception of potential trespassers).

### **3.13 GEOLOGY AND SOILS**

The former CAFB Housing Annex is located approximately 16 miles northwest of the Charleston Harbor between the Ashley and Cooper Rivers in the lower portion of the Atlantic Coastal Plain, Charleston physiological province of South Carolina.

The geology of the former CAFB Housing Annex and the surrounding area consists of an underlying layer of Pleistocene-age sediments consisting of sandy and clay deposits. The major geologic formations in the area include the Wando, Ten Mile Hill beds, and the Ashley (Weems and Lemon, 1988).

Former CAFB Housing Annex soils are typically composed of sand and sandy loam. Clay content generally increases with depth. Permeability is relatively high in surface soils but decreases with increasing clay content and depth (NRCS, 1993).

Radon, a radioactive gas that seeps out of rocks and soil, comes from uranium that has been in the ground since the time the earth was formed. Radon can occur in high concentrations in soils and rocks containing uranium, granite, shale, phosphate, and pitchblende. Under the Radon Assessment and Mitigation Program, the adjacent Charleston AFB was surveyed for radon gas and was determined to be in the “Low Probability Category.” The survey results were found to have radon concentrations far less than four picocuries per liter, which is the level of concern established by the USEPA.

### **3.14 ENVIRONMENTAL JUSTICE AND PROTECTION OF CHILDREN**

Environmental justice is the fair treatment and meaningful involvement of all people regardless of race, color, national origin, or income with respect to the development, implementation, and enforcement of environmental laws, regulations, and policies. “Fair treatment” means that no group, including racial, ethnic, or socioeconomic groups, should bear a disproportionate share of the adverse environmental consequences resulting from industrial, municipal, or commercial operations or the execution of federal, state, local, and tribal programs and policies.

In February 1994, President Clinton issued EO 12898, *Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations* (59 Federal Register [FR] 7629). This order directs federal agencies to incorporate environmental justice as part of their missions. Federal agencies are specifically directed to identify and, as appropriate, to address disproportionately high and adverse human health or environmental effects of their programs, policies, and activities on minority and low-income populations. CEQ has issued guidance to federal agencies to assist them with their NEPA procedures so that environmental justice concerns are effectively identified and addressed (CEQ, 1997).

The U.S. 2000 Census was used to determine the low-income and minority population characteristics of the area. U.S. Census data on minority and low-income populations are reported every 10 years with each decennial census. Census data are reported for a variety of geographic areas depending on availability of data. For purposes of environmental justice calculations, the largest geographic area is the Census Tract (CT), which can range in size from several to many miles depending on the density of the local population. Each CT consists of several Block Groups (BGs). Each BG in turn consists of multiple Blocks, which sometimes coincide with geographies as small as a city block or several acres of land area.

There is no human population currently at the former CAFB Housing Annex. Environmental justice is analyzed in this EA for the minority and low-income populations that live in the immediate vicinity of the parcel to be conveyed to the City of North Charleston under the Proposed Action. CTs 26.10, 31.08, 31.09, and 31.10 are located adjacent to the project parcel. Table 3-3 presents the 2000 Census minority and poverty data for these census tracts to include Charleston County and the State of South Carolina (U.S. Census Bureau, 2000).

As indicated in Table 3-2, the percentage of minorities in populations of Charleston County and in the State of South Carolina in 2000 were 36.6 percent and 28.4 percent, respectively. Among the CTs adjacent to the project parcel, three had greater minority percentages (CTs 31.08, 31.09, and 31.10) and one had a lower minority percentage (CT 26.10) than did Charleston County or the State of South Carolina. In 2000, 16.4 percent of the population of Charleston County and 14.1 percent of the population of the State of South Carolina were below the poverty level. The poverty level percentages of CT 26.10 (16.0 percent) and CT 31.10 (16.6 percent) were relatively comparable to that of Charleston County. The poverty level percentages of CT 31.08 (11.4 percent) and CT 31.09 (6.2 percent) were below those of both Charleston County and the State of South Carolina.

**TABLE 3-2**

U.S. Census 2000 Minority and Poverty Data

*Environmental Assessment for Military Family Housing Privatization, Charleston AFB*

<b>Population</b>	<b>CT 26.10</b>	<b>CT 31.08</b>	<b>CT 31.09</b>	<b>CT 31.10</b>	<b>Charleston County</b>	<b>South Carolina</b>
Total population	350	1921	3430	6436	309,969	4,012,012
Percentage of minorities in population <sup>a</sup>	23.1%	54.3%	39.9%	48.8%	36.6%	28.4%
Percentage of population below poverty level <sup>b</sup>	16.0%	11.4%	6.2%	16.6%	16.4%	14.1%

Source: U.S. Census Bureau, 2000

<sup>a</sup> Minorities includes persons who identify themselves as black (African-American), Asian or Pacific Islander, Native American or Alaskan Native, or Hispanic. The 2000 Census definition of Hispanic or Latino are individuals who classify themselves in one of the specific Hispanic or Latino categories such as "Mexican," Puerto Rican," or "Cuban," as well as those who indicate that they are "other Spanish, Hispanic, or Latino." Origin can be viewed as the heritage, nationality group, lineage, or country of birth of the person or the person's parents or ancestors before arrival in the United States. People who identify their origin as Spanish, Hispanic, or Latino may be of any race.

<sup>b</sup> Based on 48 poverty threshold variables used by the U.S. Bureau of the Census, including income, family size, number of family members under the age of 18 and over 65 years of age, and amount spent on food. Poverty data is based on different total population than rest of table.

Guidelines for the protection of children are specified in EO 13045, *Protection of Children from Environmental Health Risks and Safety Risk* (FR: 23 April 1997, Volume 62, Number 78). This EO requires that federal agencies make it a high priority to identify and assess environmental health and safety risks that may disproportionately affect children, and ensure that policies, programs, and standards address disproportionate risks to children that result from environmental health or safety risks.

In 2000, 27.4 percent of the combined populations of the CTs located adjacent to the project parcel were children under the age of 18 (U.S. Census Bureau, 2000).

### **3.15 CUMULATIVE IMPACTS**

Cumulative impacts result from the incremental impact of actions when added to other past, present, and reasonably foreseeable future actions, regardless of what agency undertakes such other actions (CEQ, 2007). Cumulative impacts can result from individually minor but collectively significant actions taking place over a period of time. The former CAFB Housing Annex does not contribute to any cumulative impacts in its present state.

### **3.16 COASTAL ZONE MANAGEMENT**

The former CAFB Housing Annex is located within the South Carolina coastal zone which is regulated by the South Carolina Department of Health and Environmental Control (SCDHEC) Office of Ocean and Coastal Resource Management (OCRM). There are no notification/concurrence requirements at present, as CAFB plans no significant land disturbance activities.

## 4.0 ENVIRONMENTAL CONSEQUENCES

### 4.1 AIR QUALITY

Demolition and construction activities under the Proposed Action would result in short-term, minor impacts to air quality. Fugitive dust (particulate matter) and construction vehicle exhaust emissions would be generated during demolition/construction and would vary daily, depending on the level and type of work conducted.

Fugitive dust would be generated by construction vehicle and equipment travel on dirt surfaces and by wind action on stockpiled materials. The primary risks from blowing dust particles relate to human health and human nuisance values. Fugitive dust from stockpiled materials would consist primarily of nontoxic particulate matter; however, fugitive dust can contribute to respiratory health problems and create an inhospitable working environment. Surface deposits can be a nuisance to those living or working downwind. Best management practices (BMPs) that should be implemented to reduce or eliminate fugitive dust emissions would include the following:

- *Sprinkling/Irrigation.* Sprinkling the ground surface with water until it is moist is an effective dust control method for haul roads and other traffic routes (Smolen et al., 1988). This practice can be applied to almost any site. When suppression methods involving water are used, care should be exercised to minimize over-watering which could cause the transport of mud onto adjoining roadways, ultimately increasing the dust problem.
- *Vegetative Cover.* In areas not expected to handle vehicle traffic, vegetative stabilization of disturbed soil is often desirable. Vegetation provides coverage to surface soils and slows wind velocity at the ground surface, thereby reducing the potential for dust to become airborne.
- *Mulch.* Mulching can be a quick and effective means of dust control for recently disturbed areas.

Pollutants that would be emitted from the internal combustion engine exhausts of construction vehicles and equipment include carbon monoxide, nitrogen oxide, particulate matter, and volatile organic compounds. During demolition/construction, these types of exhaust emissions would be temporary, at their expected generation levels, and would not significantly impact air quality. Fugitive dust and exhaust emissions from the proposed demolition/construction activities or during facilities operations would not collectively represent a new major source of emissions.

No new significant emission sources (boilers, incinerators, etc.) are planned under the Proposed Action.

The construction and operation of municipal facilities proposed at the site would not have a significant impact on air quality under the proposed action.

No effect to site air quality would occur under the No Action alternative.

### 4.2 NOISE

Intermittent short-term minor adverse effects from noise would be expected from demolition and construction activities under the Proposed Action.

**Construction Noise.** Building construction, modification, and demolition work can cause noise emissions above ambient sound levels. A variety of sounds come from graders, pavers, trucks, welders, and other work processes. As a typical urban neighborhood is usually around 60 to 70 dBA, noise emissions from construction projects can cause short-term, adverse effects.

Noise from construction activities varies depending on the type of construction being done, the area that the project would occur in, and the distance from the source.

Demolition and construction activities would be expected to result in noise levels comparable to those indicated in **Table 4-1**. The noise levels shown in **Table 4-1** were calculated based on assumptions of several pieces of equipment operating at one time and should be considered only estimates for how loud a project site would sound at different distances.

Given the extent of the projects under the Proposed Action and the proximity to residents, adverse effects from construction noise are not significant. Additionally, noise generation would last only for the duration of construction activities and could be reduced through the use of equipment exhaust mufflers. Construction activities should occur only during working hours.

**Table 4-1. Estimated Noise Levels Resulting from Demolition and Construction Projects**

Type of Activity	dBA at 50 feet	dBA at 300 feet	dBA at 500 feet	dBA at 1,000 feet	dBA at 3,000 feet
Demolition	90	74	70	64	54
Construction	85	70	65	59	50

The short-term increase in ambient noise levels from the Proposed Action would not cause significant adverse effects on the surrounding populations.

**Operational Impacts.** Following completion of the construction project, the ambient noise level would decrease to levels expected from activities associated with day-to-day operations of the proposed municipal facilities. Intermittent short-term minor adverse effects from noise would be expected from emergency and fire response vehicles which are necessary for increased public safety. No significant impact on the ambient noise environment is anticipated as a result of the Proposed Action.

No impact on current noise levels would occur under the No Action Alternative.

#### **4.3 SOLID WASTE**

The construction and operation of the municipal facilities under the Proposed Action are not expected to generate enough solid waste to require additional facilities or capacity to handle the increases in the quantity generated. Construction contractor(s) should recycle materials to the maximum extent possible, thereby reducing the amount of construction and demolition debris placed into landfills. The construction and operation activities would not have a significant impact on area solid waste generation.

Under the No Action Alternative, there would be no impact to solid waste generation.

#### **4.4 HAZARDOUS MATERIALS AND WASTES**

Products containing hazardous materials could be used during the proposed construction activities for the Proposed Action. Contractors should be required to use hazardous materials in accordance with all federal, state, and local regulations.

Hazardous wastes could be generated in small quantities during the construction activities. Contractors should be required to properly characterize, store and dispose of hazardous wastes in accordance with local state and federal regulations.

Small quantities of hazardous substances (cleaners, pesticides, herbicides, etc.) are also expected to be used during the proposed facilities operations, and the materials should be handled in accordance with local, state and federal regulations.

Under the No Action Alternative, no hazardous material or waste generation would occur.

#### **4.5 ASBESTOS-CONTAINING MATERIALS AND LEAD-BASED PAINT**

Twenty two abandoned housing units on the property would be demolished under the Proposed Action. Comprehensive asbestos and lead based paint surveys would be conducted prior to demolition, and any asbestos and/or lead based paint found should be abated in accordance with applicable laws and regulations.

The No Action Alternative would have no effect on existing asbestos and/or lead based paint.

#### **4.6 WATER RESOURCES**

No jurisdictional wetlands or other water bodies currently exist on or directly adjacent to the site. Storm water runoff during demolition and construction should be controlled using best management practices. The Proposed Action would not have a significant impact on any water resources.

The No Action Alternative would have no effect on any water resources.

#### **4.7 BIOLOGICAL RESOURCES**

The Proposed Action would occur within a virtually abandoned area with a modified and disturbed landscape. The activities would not substantially change habitat for plant or animal species, nor would they diminish important plant or animal species populations.

Proposed demolition and construction would not create long-term disturbance to any fish or wildlife in native environments adjacent to the project site. There would be no impacts to vegetation outside the developed areas of the city municipal facilities. Use of best management practices, silt fences, and reestablishment of ground cover during construction would minimize the potential for adverse effects to vegetation at and near the construction site. Grass, shrub and tree planting would occur upon completion of construction activities. Therefore, no significant adverse effects to wildlife and vegetation would be anticipated, and likely the project site would be improved.

No impacts to any biological resources would occur under the No Action Alternative.

#### **4.8 SOCIOECONOMIC RESOURCES**

The Proposed Action would provide a temporary positive socioeconomic effect due to employment of construction workers. The municipal facilities operations would also provide positive socioeconomic effects for potential additional employees and for the providers of products and services.

No activity would take place under the No Action Alternative; therefore no impact to socioeconomic resources would occur.

#### **4.9 CULTURAL RESOURCES**

The Proposed Action would not affect any known historical or archeological resources. In the unlikely event that previously undetected archaeological remains are encountered during demolition or construction activities, work shall cease until the proper federal, state, and tribal entities were contacted.

There would be no activity under the No Action Alternative; therefore, no impact to potentially present cultural resources would occur at the site.

#### **4.10 LAND USE**

The Proposed Action would convert the existing abandoned residential lot to municipal facilities and associated infrastructure. Presence and operations of proposed municipal facilities shall be compatible with adjacent land uses. The land use impact is considered minor.

There would be no activity under the No Action Alternative; therefore no impact to land use would occur at the proposed site.

#### **4.11 TRAFFIC AND TRANSPORTATION**

There would be some temporary increases in traffic in the area during demolition and construction activities under the Proposed Action. There would also be long-term minor impacts to local traffic and area roads during the operation of the facilities due to employee, public and vendor vehicular movement. Road improvements currently underway to Remount Road and I-26 will, however, increase vehicular capacity and greatly improve traffic movement in the area. These road improvements will likely be completed prior to transfer of the former CAFB Housing Annex to the City of North Charleston.

Under the No Action Alternative, there would be no impact to traffic and transportation at the proposed site or on the adjacent roads.

#### **4.12 SAFETY AND OCCUPATIONAL HEALTH**

Construction workers and employees of the facility shall comply with occupational safety and health regulations, so there should be negligible/zero safety and occupational health effects.

The No Action Alternative would result in no changes to safety and occupational health.

#### **4.13 GEOLOGY AND SOILS**

Construction activity under the Proposed Action would occur within an area where soils have been previously disturbed by previous construction. Erosion control techniques and best management practices would be implemented during the construction of the proposed facility to reduce erosion. Protection would be provided by accelerated growth of permanent vegetation, temporary vegetation, mulching, or netting. Use of best management practices such as silt fences and single point construction entries would minimize erosion during construction. Grass and other landscaping would be reestablished in the disturbed areas immediately after completion of construction, thereby reducing the potential for erosion. Therefore, no significant geology or soils impacts would be expected.

Under the no-build alternative, there would be no disturbance to the soils on the site.

#### **4.14 ENVIRONMENTAL JUSTICE AND PROTECTION OF CHILDREN**

Under the Proposed Action, construction and demolition activities would have only minor impacts associated with the resources most relevant for assessing impacts on human populations, which are air quality, noise, groundwater, surface water, and hazardous materials/wastes. The minor impacts that construction and demolition activities would have on these resources would not adversely affect human populations. Therefore, the Proposed Action would not have disproportionately high or adverse human health or environmental effects on minority or low-income populations or children. Additionally, construction areas would be secured against unauthorized entry; therefore, the Proposed Action should not result in environmental health or safety risks to children.

Under the No Action Alternative, no environmental justice or protection of children issues would exist.

#### **4.15 CUMULATIVE IMPACTS**

As previously stated, cumulative impacts result from the incremental impact of actions when added to other past, present, and reasonably foreseeable future actions, regardless of what agency undertakes such other actions. Cumulative impacts can result from individually minor but collectively significant actions taking place over a period of time.



Cumulative effects of noise, traffic, and solid waste associated with demolition and construction of the proposed facilities would be short term and should be minor. The proposed municipal facilities operations would contribute to a permanent cumulative impact. As previously stated, the city has recently constructed an adjacent SPCA facility, and has proposed additional city facilities on the adjacent former Naval Annex. The cumulative effects of current and planned facilities operations will not be adversely significant considering surrounding area property uses and road improvements currently underway in the area. Additionally, the proposed municipal facilities would be constructed on improved land, so no cumulative effects to natural landscapes/biological resources would occur.

Under the No Action Alternative, the facilities would not be built and no indirect or cumulative effects would occur.

#### **4.16 COASTAL ZONE MANAGEMENT**

The former Radar Annex is located within the South Carolina coastal zone. A Notice of Intent would be required to be submitted to the South Carolina Department of Health and Environmental Control (SCDHEC) Office of Ocean and Coastal Resource Management (OCRM) for proposed demolition and construction activities. This triggers the requirement for Coastal Zone Certification review.

Under the No Action Alternative, there would be no notification requirement and no impact with respect to coastal zone management.

## **5.0 PERSONS CONTACTED**

The following persons were consulted during preparation of this EA:

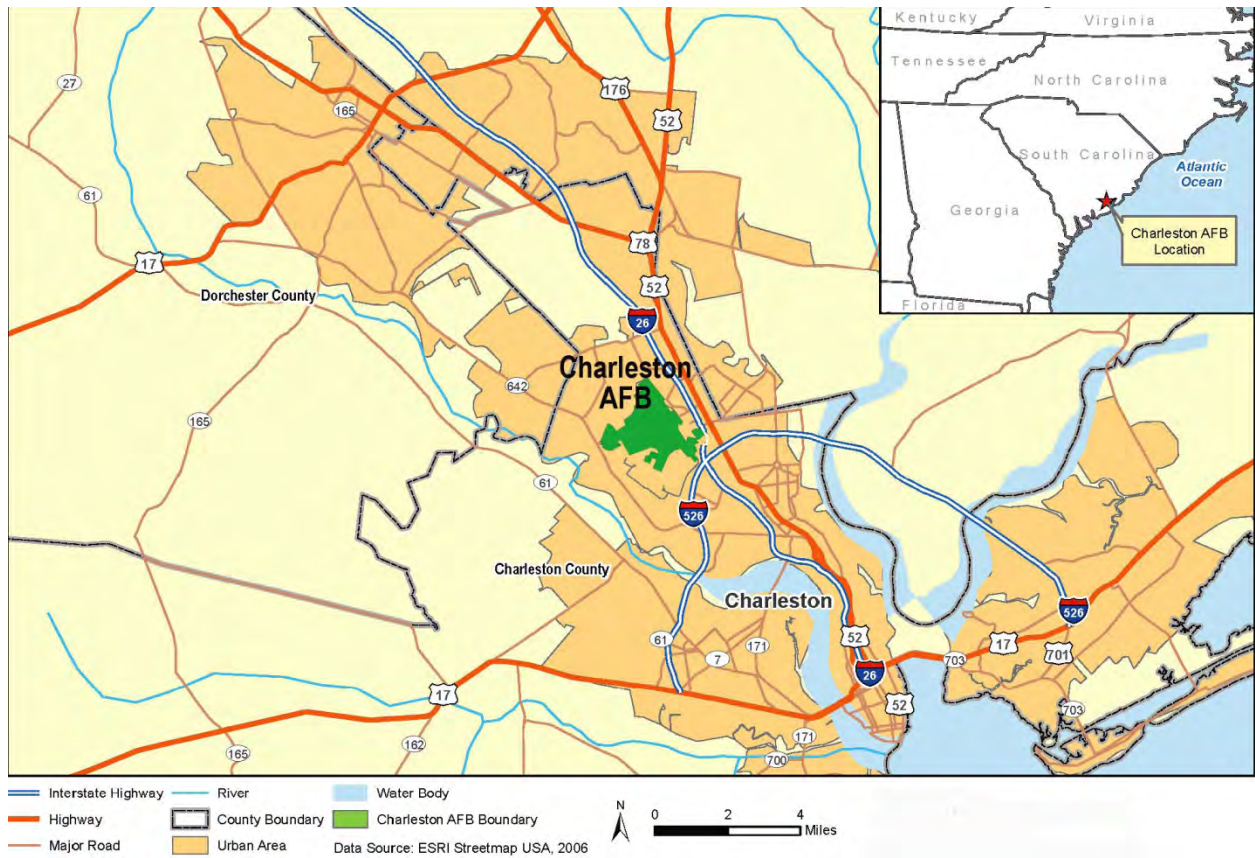
Urrutia, Al	Asset Optimization Manager, Charleston AFB
Thompson, Keith	Conservation/Natural Resources Manager, Charleston AFB
Wannamaker, Charles	Water/POL/Tanks Manager, Charleston AFB
Hardin, Tommy	Hazardous Waste Manager, Charleston AFB
Holsclaw, Dana	Restoration Manager, Charleston AFB
Jon Stanley	Civil Law, Charleston AFB
Thompson, Steve	Engineer, City of North Charleston

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# **APPENDIX A**

## **FIGURES**



**Figure 1**

## **Charleston Air Force Base and Surrounding Area**

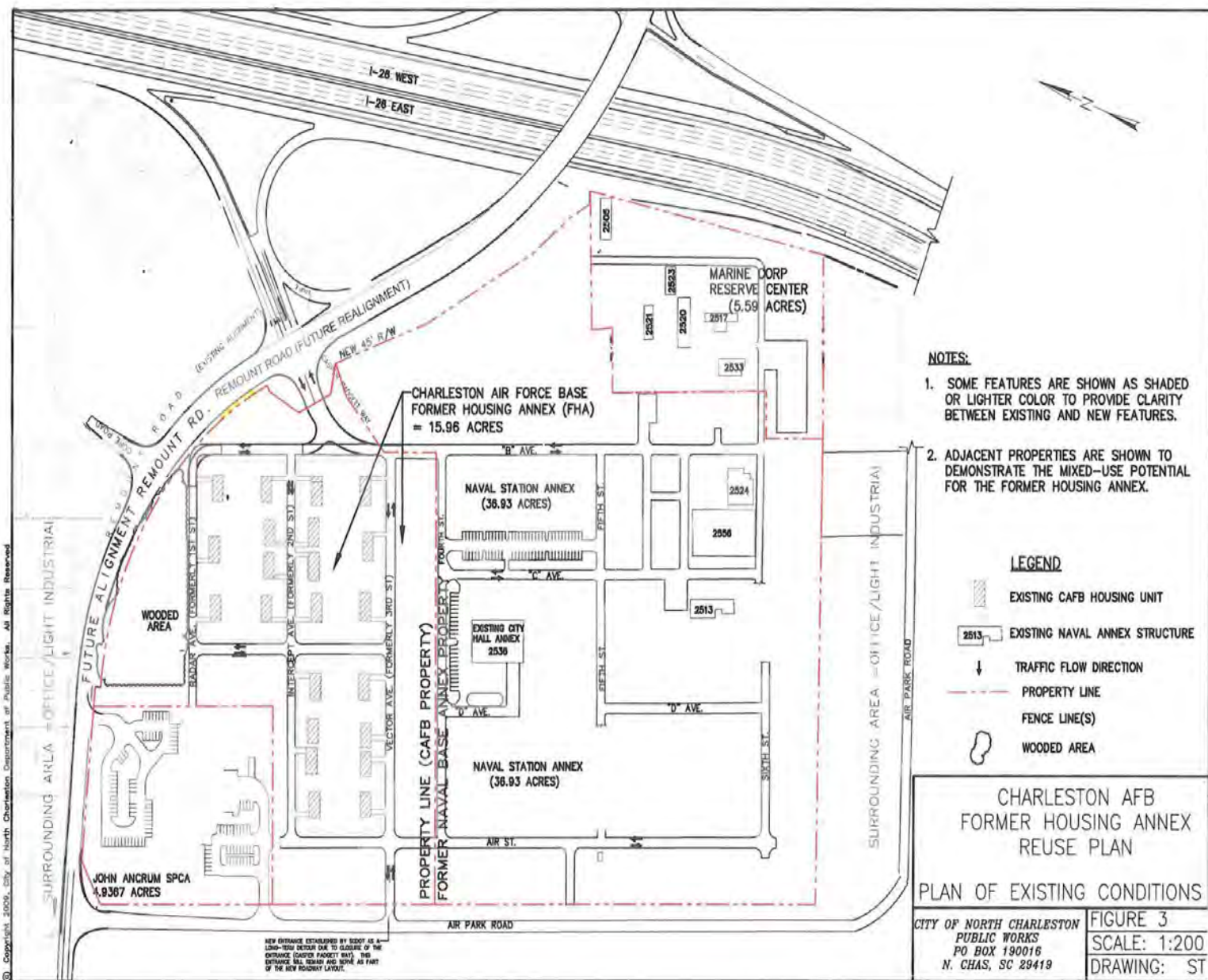


**Figure 2**  
**Site Location**



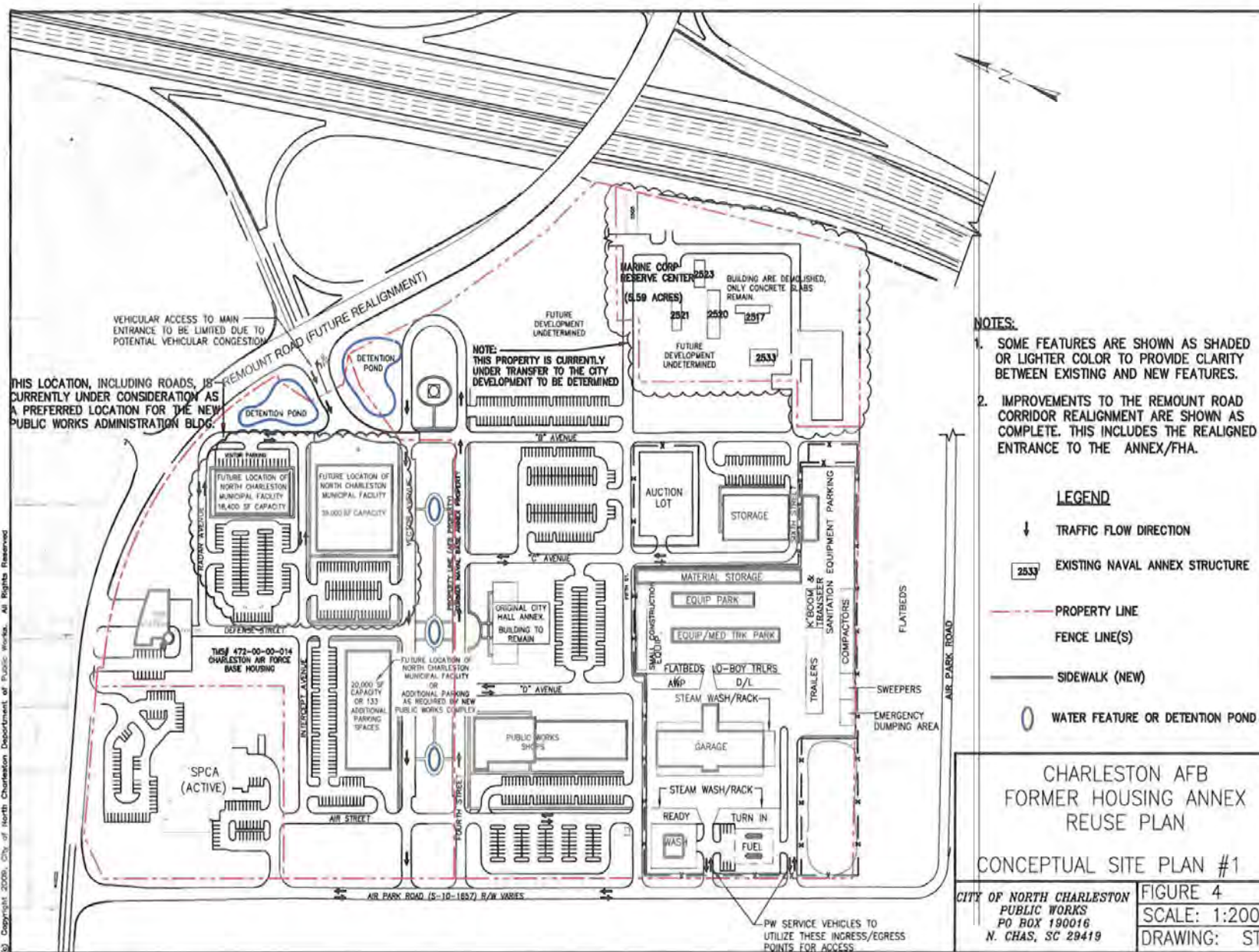
# Subject Property (15.96 acre parcel)

Figure 3



# Conceptual Site Plan #1

Figure 4





## Figure 5



# **APPENDIX B**

## **Photo Log**



**Aerial View of Parcel**





**Parcel View Looking East**



**Parcel View Looking West**





**Parcel View Looking North**



**Parcel View Looking Northeast**

## **APPENDIX C**

### **IICEP CORRESPONDENCE**